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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/473,846	12/28/1999	SEUNG-HWAN OH	P992062	1536

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EXAMINER

DAMIANO, ANNE L

ART UNIT	PAPER NUMBER
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2114

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/473,846

Applicant(s)

OH, SEUNG-HWAN

Examiner

Anne L Damiano

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/12/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: Line 7, "the error packet" lacks antecedent basis. Line 8, "the entire error packet" lacks antecedent basis. These are interpreted as meaning the packet in which the error is detected. Appropriate correction is required.
2. Claim 2 is objected to because of the following informalities: Line 8, "the error packet" lacks antecedent basis. Line 9, "the error packet" lacks antecedent basis. Line 10, "the entire error packet" lacks antecedent basis. These are interpreted as meaning the packet in which the error is detected. Appropriate correction is required.
3. Claim 3 is objected to because of the following informalities: Line 3, "the error packet" lacks antecedent basis. This is interpreted as meaning the packet in which the error is detected. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Haddock et al. (5,999,538).

As in claim 1, Haddock discloses a method for processing a packet exceeding a predetermined size (since no predetermined size is specified, the examiner asserts a predetermined size of 1 byte) received from a physical layer by a MAC layer of an Ethernet to be transmitted to a switch, the method comprising the steps of:

Receiving a packet from the physical layer and transmitting the received packet to a switch without waiting for a complete reception of the entire error packet (column 1: lines 39-44) (In an Ethernet, packets are received by the MAC layer from a physical layer.);

Detecting for an error while transmitting the packet;

Upon detection of the error, stopping the transmission of the error packet to the switch;
and

Transmitting a signal indicating an occurrence of the error and a signal indicating an end of the received packet to the switch (column 2: lines 16-25 and 6: lines 28-30, lines 36-38 and

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lines 49-58). (Since more than one node knows when a packet collision has occurred, some sort of signal must be present in the system to indicate the occurrence of an error. Since the jam signal is sent for a period of time, immediately prior to the stopping of transmission, it is interpreted as being an end of packet signal. Immediately following the detection of error, the jam signal is sent for a period of time, however, the node still stops transmitting without waiting for a complete reception of the entire packet.)

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being anticipated by AAPA in view of Lo (5,493,562).

Regarding claims 2 and 3, AAPA discloses an existing method for processing a packet exceeding a predetermined size (since no predetermined size is specified, the examiner asserts a predetermined size of 1 byte) received from a physical layer by a MAC layer of an Ethernet to be transmitted to a switch, wherein the received packet is stored in a memory for an eventual

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transmission to a switch (page 2, lines 5-6) (The MAC layer performing an error processing operation implies that data must be stored in memory. Since packets are generally made up of more than a single byte, a packet not exceeding a 64 bytes (page 2: line 16) is still considered exceeding the predetermined size of the asserted 1 byte.), the method comprising steps of:

Receiving a packet from the physical layer, storing the received packet in the memory, and transmitting the packet to the switch;

Detecting for error while receiving the packet;

Upon detection of the error, stopping the storage of the error packet in the memory and the transmission of the error packet to the switch without waiting for a complete reception of the error packet (page 2, lines 15-16). (For an error to occur while receiving a packet implies that something is detecting for error while receiving the packet. Discarding the error packet when an error occurs while receiving the packet implies the stopping of the storage and transmission of a packet upon detection of an error and transmitting the packet to the switch if the packet is not detected and therefore, discarded. It is implied by AAPA that in packets not exceeding 64 bytes, the storing is stopped without receiving the entire packet. "When an error occurs in the packet...while receiving the packet, the MAC layer will discard the error packet" (AAPA, page 2, lines 15) in conjunction with the following sentence's, "However...in a packet exceeding 64 bytes...the MAC layer will receive the entire packet." These two sentences with the, however conjunction, meaning in contrast to, makes it clear that in packets less than 64 bytes (that still exceed the examiner's asserted predetermined size) stop the storage of the packet upon the detection of error.));

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However, AAPA does not specifically disclose transmitting signals, indicating an occurrence of the error or an end of the received packet, to the switch. Lo discloses a method for processing packets that transmits both an error signal and an end-of-packet signal to a switch (column 4, lines 24-30).

It would have been obvious to a person skilled in the art at the time the invention was made to include transmitting error and end-of-packet signals into the packet processing method taught by AAPA above. It would have been obvious because Lo clearly teaches that gathering error statistics (by sending error and end-of packet signals to the switch) in a computer network is useful in network management because it enhances the user's ability to locate problems in the network (column 1, lines 14-17). A person skilled in the art would have understood that good network management techniques would optimize the computer network.

Regarding claim 3, neither AAPA nor Lo specifically disclose the step of preparing to receive a next packet from the physical layer after receiving the error packet. However, it would have been obvious to a person skilled in the art at the time the invention was made to include this step in the packet processing method. This would have been obvious because it well known in the art that the Ethernet constantly processes packets and sending an end-of-packet signal is actually preparing the receiving end for the next packet. A person skilled in the art would have understood that after receiving the end-of-packet signal, the MAC layer would prepare to receive a next packet.

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8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Lo as applied to claim 2 above, and further in view of Itkowsky et al (6,295,281).

Regarding claim 4, AAPA and Lo teach the method for processing a packet received by the MAC layer wherein the received packet is stored in a memory, above. However, neither specifically discloses the memory comprising a FIFO memory. Itkowsky discloses a Media Access controller with a FIFO memory (column 1: lines 59-61 and column 2: lines 29-34).

It would have been obvious to a person skilled in the art at the time the invention was made to store the received packet in a FIFO memory. It would have been obvious because Itkowsky discloses the prior art IEEE 802.3x standard requiring a large FIFO memory and an improvement, which also stores received packets in a FIFO memory. A person skilled in the art would have known, especially according to the IEEE standard, that FIFO memories are very commonly used to store packets in Ethernets.

Response to Arguments

9. Applicant's arguments filed November 14th, 2003 have been fully considered but they are not persuasive.

It is respectfully submitted that the features recited in claims 1-4 are taught by Haddock alone, APAA in combination with Lo, or APAA in combination with Lo and Itkowsky.

Regarding claim 1, the feature "...detecting for an error while transmitting the packet" is taught by Haddock alone (column 2: lines 16-25). Stopping transmission of a packet, mid-packet, implies that error detection is happening simultaneously as the packet is transmitted.

"...detecting for an error while transmitting the packet" is not anticipated by AAPA. However, it is anticipated by Haddock (see claim rejection above).

Haddock does disclose continuing to transmit for a period of time, as cited by the arguments; however, this is just for the duration of the jam time. After that jam signal is sent, the node stops transmitting without waiting for a complete reception of the entire packet.

Regarding claim 2, the feature "upon detection of the error, stopping the storage of the error packet in the memory and the transmission of the received packet to the switch without waiting for a complete reception of the error packet" is taught by AAPA on page 2, lines 15-16. For an error to occur while receiving a packet implies that something is detecting for error while receiving the packet. Discarding the error packet *when* an error occurs *while* receiving the packet implies the stopping of the storage and transmission of a packet upon detection of an error and transmitting the packet to the switch if the packet is not detected and therefore, discarded. It is implied by AAPA that in packets not exceeding 64 bytes, the storing is stopped without receiving the entire packet. "When an error occurs in the packet...while receiving the packet, the MAC layer will discard the error packet" (AAPA, page 2, lines 15) in conjunction with the following sentence's, "However...in a packet exceeding 64 bytes...the MAC layer will receive the entire packet." These two sentences with the, however conjunction, meaning in contract to,

makes it clear that in packets less than 64 bytes (that still exceed the examiner's asserted predetermined size) stop the storage of the packet upon the detection of error.

Also, in regards to the packet exceeding a predetermined size, since no predetermined size is specified, that limitation fails to further limit the claim. Therefore, a packet smaller than 64 bytes still exceeds some predetermined size.

In view of the above-described distinctions, it is respectfully submitted that the invention of Claims 1-4 as anticipated or made obvious by Haddock alone, APAA in combination with Lo, or APAA in combination with Lo and Itkowsky. Therefore, withdrawal of this ground of rejection is not granted.

Although claims 3 and 4 are dependent from the independent claims discussed above, they are believed to be made obvious by APAA in combination with Lo, or APAA in combination with Lo and Itkowsky for the reasons mentioned above.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See PTO-892.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne L Damiano whose telephone number is (703) 305-8010. The examiner can normally be reached on M-F 9:00AM-6:30PM, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (703) 305-9731. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

ALD


SCOTT BADERMAN
PRIMARY EXAMINER